

# Talking Dirty

## *Formal and Informal Communication in Construction Projects*

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**Abstract:** We analyse the emergence and use of formal and informal communication tools in group working to aid in understanding the complexity of construction projects. Our test case is the design and build of an interactive digital installation in an exhibition space, involving students. After the project we conducted focus group studies to elicit insights into the effective use of the digital communications available for the project. We recount key insights from the study and examine how digital messaging devices are contributing to or hindering creative discussion.

Whereas the construction process is concerned with the removal of dirt and re-ordering, in this paper we reflect on construction's ritualistic, contractual and unauthorized aspects, and dirt's role within them. We draw on Bakhtin's theories of the carnival in exploring ritual, and the mixing of the un-sanctioned (rumour) with the official (contractual). How does dirt impinge on issues of communication, open discussion, and the move towards "partnering" in construction practice? We conjecture that while physical dirt might be unpleasant, the removal of other forms of metaphorical dirt hampers construction as an efficient and creative process.

## 1 THE POTENTIAL OF DIRT

We assume that the construction project is not merely a place in which instructions are carried out, but a locus of creative action. The processes of communication are highly creative. Dirt plays a part in this; its presence is an important creative catalyst in language. Hyde (1998) warns of the dangers of its expulsion, suggesting that "purity ends in sterility. Douglas (1978) illustrates the problematic of dirt as "matter out of place" (179), suggesting that something appears as dirt depending on one's perspective. This challenges Thompson's (1979) thesis that considers dirt and rubbish as a distinct category into which objects periodically move.

Dirt conjures up negative images of dust invading the hardware, and viruses assaulting software. From the period when clean rooms were required for computing, dirt strikes us as disabling. Within anthropological study, however, dirt is not wholly negative (Douglas 1978) and it is an important aspect of the carnival (Bakhtin 1984), it is metaphorically potent and is implicated in creative and

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subversive actions. Dirt and redundancy (Reddy 1979) are often championed as important creative catalysts, and attempts to totally expunge them are harmful, and they are commonly equated with noise and entropy in communications (Shannon and Weaver 1963). Certain language theorists draw on noise and dirt as a necessary requirement of communication (Hyde 1998). Its inherent ambiguity is essential in language for understanding to occur (Wittgenstein 1953). This research explores the potency of dirt as a focal concept by which to understand digital communications (such as email and message boards), which are becoming commonplace in the increasingly litigious workplace.

Theorists readily draw on concepts of space and containment to define communications. At the very least, language is an exercise in categorisation, assuming similar meanings, under a particular word or sign. Reddy (1979, 187) suggests that these assumptions contribute to miscommunication, particularly when communicating across differing cultural categories. In formal communications there is an understanding that certain communiqués are meant for particular recipients, within certain categories of communications. This bureaucratisation of communications has its place, but communication also requires the transgression of boundaries (Deleuze 1988).

We provide a theoretical background to concepts of on-site communications, and how they are revealed in our study of a student design and build project. We outline a communication device developed in the web database environment of ColdFusion. We deliberately employed a prototype with limited (even disabled) functionality to elicit insights from an exploration of digital communication at the limit. Many of the cues we have come to assume in CMC (computer mediated communication) messaging are removed.

## 2 TOWARDS AN ANTHROPOLOGY OF THE CONSTRUCTION SITE

We consider the origins of construction site communicative practice in concepts of ritual, carnival, graffiti, rumour, catastrophe, interlocution, and the “return” of dirt.

### 2.1 Ritual

The construction industry harbours the remnants of ritual. The ceremony of “breaking ground” marks the first moment at which we disrupt the “natural” environment, and break through the pristine surface into the dirt below, arguably one of Vitruvius’ basic accounts of construction as residing in the placing of the primary gnomon. After a period of removing dirt, fighting and using it, the constructor marks the re-forming of the environment with the “topping-off” ceremony. What occurs between these two ceremonies is transitory, dirty and rarely celebrated. A notable exception is Japan’s Grand Shrine of Ise, where a constant rebuilding celebrates both the impermanence (Jones 2000, 246) and the procedural aspect of building. In some

parts of the world, the construction site still retains its overt ritualistic aspects, against all the pressures of automation and industrialisation. Rather than a celebrity breaking ground with a silver spade, the occasion is marked by ceremonies of the carnivalesque, including animal sacrifice.

Rituals were “sharply distinct from the serious official, ecclesiastical, feudal and political cult forms and ceremonials” (Bakhtin 1984, 5). They had little place for celebrity, other than in parodic gesture. These rituals served as a melting pot for labourers, architects, owners and engineers who would otherwise not meet. According to Bakhtin, the renewal and revitalisation that are the hallmarks of the carnival are brought about when hierarchical barriers are momentarily dropped, and populations cross-pollinate. The carnival, another celebration of the impermanent created an intriguing relationship between high (pure) and low (impure) society, and the interstices between.

This temporary suspension, both ideal and real, of hierarchical rank created during carnival time a special type of communication impossible in everyday life... permitting no distance between those who came in contact with each other and liberating from norms of etiquette and decency imposed at other times. (Bakhtin 1984, 10)

## **2.2 Graffiti**

Graffiti has traditionally played an important role in construction and its rituals, from temporarily marking the ground as a means of laying out the geometry of the encampment or building, to the use of stonemasons’ marks. Graffiti also plays a role in contemporary communications. On the one hand, contractual formalities (working documents, specifications, forms); the sanctioned communications on site, are virtually void as soon as they are released. On the other hand, a message scribbled on a wall (graffiti) might be a throwaway statement (dirt) or something else (paint colours, the location of a pipe or wire). What initially appears as graffiti becomes critical local site knowledge. The sign—of momentary importance—will eventually become redundant and overwritten plastered or painted, and disappear.

## **2.3 Rumour**

The contract is one sanctioned channel of communication, particularly in legal relationships. When parties embark on a construction project, the contract prescribes what documents are to be provided (drawings, quantities, details), and how instructions are to be passed on. These formal means are rarely sufficient. Design and construction often overlap, and involve sketching, on-site chatter, rumour and negotiation. Digital photos are circulated, sketched over and discussed.

The unsanctioned channels of Internet and mobile communication technologies (PDA’s, mobile phones, texting, voice mail, camera-phones, video-messaging) have infiltrated contractual communications. We conjecture that these communications promote creative discourse through the *rumorem* (Latin), that is, the noise and clamor of the construction site that cannot be ignored.

## 2.4 The Interlocutor

Pacheco was one of the site foremen who worked for architect and engineer Eladio Dieste. He was described as “a natural leader with an expansive personality, the ideal interlocutor between Dieste and the labour force” (Pedreschi 2000, 19). An interlocutor is one who facilitates dialogue and conversation. Dieste is often cited as a designer who engages in discussion and not just instruction. Discussion (Reddy 1979) and redundancy (Shannon and Weaver 1963) are necessary in any creative or open communicative environment. Interlocution provides a means of authorising relationships, and renders contracts viable, given recent expression through the concept of “partnering” (Fisher and Green 2001).

## 2.5 Catastrophe

Construction is a dangerous business. The rituals of the pre-modern construction site included those that obviated risk, and accorded respect to the casualties of construction. As indicated in Vitruvius’ early account, the construction of civic projects is never far from the instruments of their destruction. Apart from the devastation wrought by war machines, and issues of health and safety on the construction site, communication is already imbued with a propensity towards overturning. (*Katastrophein* from the Greek is “to overturn.”) For some theorists, dirt is implicated in this “cusp catastrophe” through which value is created and destroyed (Thompson 1979).

## 3 TEST CASES IN COMMUNICATIVE RITUAL

We tested the applicability of these themes in a context in which an appropriation of dirt carries less risk than the construction site, namely a student design and build project (which we will extend to the communicative practices of the hard hats and suits of an actual construction site in phase two of the project), later we deployed a disabled messaging device, which was informed by our initial results from the installation, to explore these themes further.

### 3.1 The Workshop

We allude here to a six week project carried out by 33 postgraduate students at the University of Edinburgh. The aim was the creation of an “installation,” this involved discussing, elaborating and agreeing a theme, then designing and assembling the installation in a workshop, commandeered as an exhibition space. The students were divided into groups and designated specific tasks. They were encouraged to work together and cross-communicate. In this preliminary study we reflect on how the electronic communications media at their disposal were utilised and what that reveals about dirt and communication in group working.

The students had at their disposal an informally structured digital notice board (created using a MySQL database and ColdFusion). The last message posted on the message board appeared at the bottom of the course homepage (Figure 1), which was set as the default homepage on all the Internet browsers on the course computers. A complete message list could be viewed easily if required, and no security measures were in place. Anyone could contribute. In contrast, by week three of the program a more structured web-based “forum” (Figure 1) appeared, designed by students in the “log team,” deploying the ColdFusion database environment that had featured in the learning in a previous term. This forum was divided into sections corresponding to each of the designated groups. Each section had a calendar and upload section. Each section was then further subdivided into topics, which anyone could add to. The students were initially encouraged to use the message board to post ideas for the installation. Subsequent to the installation project we conducted two focus group studies to assess the way the groups used the two forms of digital communications in the project.

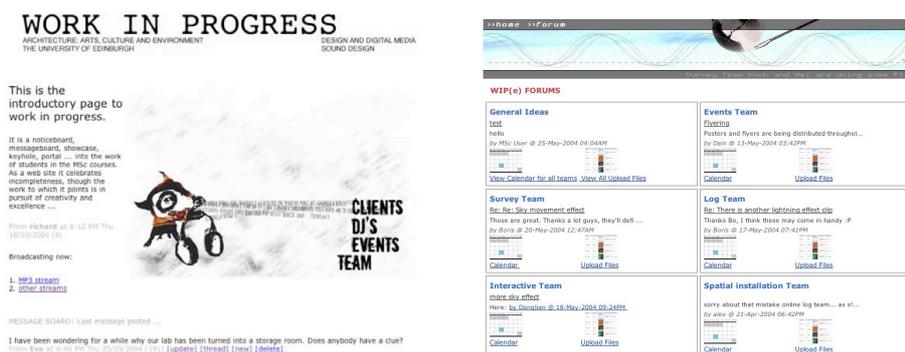


Figure 1 Digital Graffiti and Formal Forum

### 3.2 The Rumour Machine

To further explore the phenomenon of rumour, its spread and demise, accretions and deletions, spread and consolidation, as observed in the installation project, we also designed a follow-up, very limited, messaging device which was deployed later during general studio work. The messaging device was radically stripped down, devoid of threads and compartmentalisation. It included a class list (for each contributor to tick) and a single text field containing an editable instance of the current text. Additions were incorporated into the existing text at the discretion of the user. Initially the procedure was anonymous, and after a few days, a thread was revealed which would show different instances of the text to the user as it evolved. We seeded the messaging device with an initial proposition (about Bakhtin’s theme of embodiment), prompting the users to elaborate on a theme with which they were becoming increasingly familiar. The messaging device was world readable and the students were encouraged, over the course of one week, to contribute.

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Following a focus group with the students to discuss the results, we decided to seed the messaging device for a second time, with a paragraph of text that would promote refinement, rather than elaboration, of a topic. This involved a slight modification of the device to limit the amount of text it would hold. Otherwise the device remained the same. This time (based on the focus-group discussion) the device was seeded with the intension to create a succinct description of the city of Edinburgh. What follows are observations from the usage of a forum device, a message board and a disabled messaging device (a rumour machine).

### 3.3 A Community of Interlocutors

The pivotal moment for the installation project, when participants hit on an idea for the whole project, was born of noise and chatter, rather than a formally directed procedure. The project was devised by teachers with a particular theme, more as a provocation than a directive, and students were encouraged to post suggestions for its development on the message board. According to retrospective accounts, the message board had little importance in this early discussion: “All the themes were discussed in class so there was nothing way out there,” said one participant. On analysis of the record however, the message board did capture a moment which resonated with the rest of the class. Jim explained the creation of what became the motif for the project:

That happened at two in the morning and we had this thing where we would post wacky ideas on the message board. There was one that completely flopped earlier that was about scaring people with a sub-woofer. People started to come and say they liked the (umbrella) idea and it eventually has become sort of an icon for the whole thing.

But the dominant theme came a few postings later, from Frank:

We lend every visitor an umbrella, but we don't tell them what it's for. They then wander around the installation about weather and stuff holding an umbrella. And they will wonder why. Personally I think that is genius. Who's with me?

More than one enthusiast responded: “Yeah, that's genius.” After various diversions, the message board returned to the theme, with Frank's posting “I'm going ahead with the umbrella idea by the way...”

Unlike orchestrated group consensus forming activities such as the KJ method, the freedom afforded by the installation project message board discourse did not focus people on central ideas, or ideas that had a lot of group support. Rather, it recorded and revealed a fringe or edge event that slowly started to build up an accretion of positive approval, and later on other activities and aspects of the installation's construction constellated round this idea, until it became the central creative device for the project. The message board—which was just a sequential record of contributions—became this repository for chatter, noise or dirt that was building up around the installation. The process is easily characterised as the creation of a void, which allowed dirt to gather before the group finally latched onto one specific idea, and these creative and technical accretions then built up around that. While never deleting the redundant ideas the message board pushed them further away. Much as

an unchecked rumour gathers momentum and provisional authority by regurgitation and reiteration, so do ideas.

### 3.4 Digital Graffiti

It reminded me of graffiti on a toilet door, you write it and its there, you can overwrite someone else's. (Martin)

Turning our attention to the rumour machine, we found that there was an obvious freedom with the anonymity it initially afforded. Martin suggested that he “felt that was sort of liberating though, that you could say what you wanted to say and you didn't have to sign it.” It also seemed that the anonymity relieved him of certain burdens, such as “looking at who said what, although you could see threads starting to emerge from the text.” There seems to be a freedom in not knowing to whom you are responding.

Some complained that there “should maybe have been something in place where you couldn't delete someone else's [contribution]” although no one did. David assured us he would have, only he “thought it would mess up what you [the interviewers] were doing.”

Graffiti ages, it gets covered over, renewed or removed. The passage of time inflects the visual record. The absence of differentiation, which initially Martin considered liberating, became a problem. Pope, who was one of the last to contribute, noted, “Tangents were starting to emerge. There was no flow of an argument or discussion so I just responded to the first three [points].” This is when dirt return becomes problematic.

Merely allowing accretions to gather—as in the case where we seeded the device and prompted for elaboration—can “overload” the communication channel (Shannon and Weaver 1963, 26), and obscure the entire conversation. It was suggested that “maybe a change of colour for each different contribution” (Vern) would solve the problem, indicating that some form of differentiation was desired for the task of elaboration. The entire channel became contaminated by indiscriminate participation. The system lacked authority by removing the articulation of its multiple authorship. No one knew what was current, where one contribution began or ended, or who was the author of what. What was required perhaps was some form of collapse, which would take with it the less robust contributions.

## 4 CATASTROPHE

The message board for the installation was simply a sequential and unstructured medium requiring no registration, and usable by anyone who knows the URL. There were no outside intrusions, but threads were interrupted. Some of the students took exception to the interruptions. It “was just sequential, people would get interrupted,” whereas the forum was organised in terms of topics, so “you could check back.”

## 4.1 Contamination

However, the structured nature of the forum did disclose problems of categorisation. It became a problem to post a general message, because, as Steve expressed it:

There was a bit of a problem with the privatisation within the groups. It was difficult to post something that everyone could see. If for example Jim was in my group and I wanted to post something for him, it would be extra effort for me to then post it to everyone.

While the compartmentalised nature of the forum redresses the earlier issue of interruption, it also emphasised the nature and value of general disclosure. The degree of privatisation in the forum was slight, but it made a difference to the extent participants could reach into each other's groups. The issue can be couched in terms of the desirability or otherwise of containment and contamination. A break in the thread was taken as a kind of contamination, a distortion, which was addressed by containing the groups in their own topic areas. In turn, this led to difficulties in allowing ideas to spill over from one group to the next, or to broadcast insights to all groups.

## 4.2 Collapse

In his inquiry into "the creation and destruction of value" Thompson (1979) suggests that an inevitable effect of a unidirectional transaction—in his particular case constant value increase—is eventual collapse. He calls these events "cusp catastrophes." Brown (2004) suggests that where there is a uni-directional flow—ie consistent taking without giving, what Thompson describes as a catastrophe— is merely a necessary means of returning a system to a form of equilibrium.

Illustrating the nature of communicative catastrophe, after several unrelated contributions the following appeared on our "rumour machine," seeded to refine and focus a discussion about the attributes of the city of Edinburgh. It seemed to resonate with others:

You can walk on air, climb really high and as the mist begins to clear, float in the moonlit sky inspired by the rising audio-visual cornucopia. Laptop in hand, try landing softly on Arthur's Seat ready to download the genius that is your creative vision.

Over the course of four iterations by different users this paragraph evolved into a proposition more in keeping with the culture of cyber-punk or garage culture.

You can walk on air in the Wyndy [sic.] city and emmerse yourself in the architecture, cuisine, and culture. Wireless networks were conceived to connect such a space to the wider world. Within the University's digital village lie 64bit floating point and highland computer games - everything is here to help you define your reality.

Then a "cusp catastrophe" returned the thread to the sentimental:

Have you ever thought of living in a place that carries the beauty of the medieval age, covered by a veil of mystery, offering so many things to do?...Though so inspiring that it impels you to create!

The instances that immediately followed had a similar flavour to this, not at all like the previous four. Nor did anyone pick up the theme of the previous variants once the “thread” was broken. The “rumour machine,” seeded with a proposition for elaboration, became disconnected. When seeded to refine or contain a particular narrative it had a tendency to converge, though countered with sporadic interruptions, and returns to the prosaic or clichéd. This cycle seems consistent with propositions by Brown and Thompson, a behaviour consistent with the nature of rumour. On the one hand, in so far as the construction site participates in the workings of rumour, it is open to distortion and misunderstanding. On the other hand, this is the backdrop against which construction practice operates. At times onsite instructions constitute part of the background noise, at other times they operate as catastrophic interventions, breaks in the thread, or returns to normalcy.

## 5 CONCLUSION

The creation of the installation is somewhat distant from a construction site. But dirt is a useful concept in the context of practical group tasks. Engaging with dirt does not always deliver expected outcomes.

Our installation project ended in a kind of carnival, but it was already one in the Bakhtian sense. As a creative exercise the project traversed the boundary between the clean and the unclean. The dirty medium of the current—but impermanent—message board did not give way to the structured forum. There was a complex interaction between the usages that developed around each, with other communications and group activities going on as well. Dirt does not exclude the possibility of a grand totalising vision. In fact the installation’s success is attributable substantially to the flexibility that developed in the project to enable the fielding of alternative ideas, the space for other contributions to cluster around it, and the flexibility and control that the participants had over their media of communication.

Our “rumour machine” garnered varied results depending on how it was seeded. Elaboration of a narrative or idea seemed inhibited by the permanence of the accretions. There was confusion, yet users reported being “liberated” through anonymity: Perhaps this was a temporary Rabelaisian suspension of hierarchical rank. When seeded for refining a narrative, we observed not so much “cusp catastrophes” as events which collapsed the narrative, allowing it to be rebuilt. Clearing away what had accumulated and deliberately retained, a celebration of the temporary and impermanent.

There is no prescription for successful group communication here, just support for the provision of digital communications that promote collaborative engagement, and an exhortation to return to consider the seeds of construction site practice in carnival, graffiti, rumour, catastrophe, interlocution, and dirt, at least in terms of the rituals of communication.

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